

## ABSTRACT

Breathable fire-extinguishing compositions and methods for fire prevention and suppression are provided for rooms, houses and buildings, transportation tunnels and vehicles,

underground and underwater facilities, marine vessels, submarines, passenger and military

5 aircraft, space stations and vehicles, military installations and vehicles, and all other human

occupied objects and facilities. The method allows providing a breathable hypoxic fire-

preventative atmosphere at standard atmospheric or local ambient pressure. The method

employs an oxygen-extraction apparatus supplying oxygen-depleted air inside a human-

occupied area or storing it in a high-pressure container for use in case of fire. A breathable

10 fire-extinguishing composition is introduced for constant fire-preventive environments, being

mostly a mixture of nitrogen and oxygen and having oxygen content ranging from 12% to

17%. A fire-extinguishing composition is provided with oxygen concentration under 16%, so

when released it creates a breathable fire-suppressive atmosphere having oxygen

concentration from 10% to 16% with possible addition of carbon dioxide. A method for

15 automatically maintaining a breathable fire-preventive composition on board a human-

occupied hermetic object is provided by introducing inert ballast that automatically maintains

oxygen content under the Hypoxic Threshold. A hypoxic fire suppression agent and a method

are provided for producing breathable atmosphere with fire-extinguishing properties onboard

of an aircraft.

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## References

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